REMARKS/ARGUMENTS

Claims 1-55 are pending. Claims 1-10, 21-37, and 48-55 were rejected; claim 27 was objected to for an informality; claims 11-20 and 38-47 were objected to but stated to set forth patentable subject matter. In the present amendment, claims 27 and 54 are being canceled, and claims 11 and 38 are being amended. Thus, claims 1-26, 28-53, and 55 will remain pending after the present amendment.

Allowable Subject Matter

Applicants earnestly thank the Examiner for indicating the allowability of claims 11-20 and 38-47, if placed independent form. Claims 11 and 38 have been amended such that claims 11-20 and 38-47 now incorporate all of the limitations of their respective independent claims and are believed to in condition for allowance.

Claim Objection

Applicants thank the Examiner for pointing out an informality in claim 27. Claim 27 has been canceled, and the objection to claim 27 is thus rendered moot.

Rejections Under 35 U.S.C. § 103

Claim 1

Claim 1 stands rejected as being unpatentable over Kuribayashi (U.S. Patent No. 5,768,313) in view of Haner et al. (U.S. Patent No. 5,473,460). Applicants respectfully traverse the rejection. Claim 1 recites, among other features, "a controller adapted to receive the error signal and provide at least one control signal to the analog filter for adjusting the at least one filter coefficient, the controller further adapted to detect a relationship between a change in the at least one filter coefficient and a change in the error signal and adjust the at least one filter coefficient according to the relationship to minimize the error signal."

Kuribayashi merely discloses a traditional adaptive equalizer that adjusts filter coefficients according to the error signal only. There is absolutely no detection of a relationship between a change in at least one filter coefficient and change in the error signal. Like other adaptive equalizers in the prior art, the Kuribayashi equalizer assumes this relationship is known. Because the relationship is assumed to be known, no detection of the relationship is performed.

This is clearly illustrated in Fig. 5 of Kuribayashi. The figure shows a plurality of coefficient control circuits C_0', C_1', C_2', ... , C_n'. Coefficient control circuit C_0' is presented in an expanded view to show its internal components, which include a data discriminating circuit d_0, a data extractor circuit e_0, a sign switching circuit s_0, and an integrator i_0. The rest of the coefficient control circuits C_1', C_2', ... , C_n' are presented in abbreviated view, without showing their respective internal components'. Kuribayashi only describes the function of coefficient control circuit C_0' in detail, but the other coefficient control circuits C_1', C_2', ... , C_n' function in the same way and have the same internal components.

For coefficient control circuit C_0', the error signal is the input to integrator i_0, and the filter coefficient is the output from integrator i_0. Thus, the error signal is simply integrated according to integrator i_0 to generate the appropriate filter coefficient. The structure of integrator i_0 is fixed. Clearly, the relationship between the filter coefficient (output of integrator i_0) and the error signal (input of integrator i_0) is *assumed* to be an integration function. The relationship is assumed to be the particular integration function performed by the fixed integrator i_0. Since the relationship is assumed, no detection of the relationship is needed. Indeed, the Kuribayashi system does not perform any detection of a relationship between a change in the at least one filter coefficient and a change in the error signal, which is required by claim 1.

Also, since the relationship is assumed, the filter coefficient can be adjusted simply by using the error signal and the assumed relationship, without using any detected relationship between a change in the at least one filter coefficient and a change in the error signal. That is the Kuribayashi system does not adjust at least one filter coefficient according to the relationship detected between a change in the at least one filter coefficient and a change in the error signal, which is also required by claim 1.

In fact, because Kuribayashi clearly discloses an assumed relationship between a coefficient and an error signal, this reference teaches away from claim 1, which requires the detection of a relationship between a change in the at least one filter coefficient and a change in the error signal.

Furthermore, none of the other cited references, including Haner et al., makes up for the deficiencies of Kuribayashi. Given all of the forgoing, claim 1 is clearly patentable over

Kuribayashi and Haner et al. Removal of the rejection under § 103 is therefore respectfully requested.

Claims 28 and 55

Claims 28 and 55 each recite limitations relating to detection of a relationship between a change in the at least one filter coefficient and a change in the error signal, as well as the adjustment of the at least one filter coefficient according to the relationship detected between a change in the at least one filter coefficient and a change in the error signal. Thus, for at least the reasons stated above with regard to claim 1, claims 28 and 55 are both patentable over Kuribayashi and Haner et al.

Dependent Claims

Dependent claims 2-26 and 29-53 depend from claims 1 and 28, respectively, and therefore incorporate all of the limitations of their respective independent claims. For at least the reasons stated above with regard to claims 1 and 28, claims 2-26 and 29-53 are also patentable over Kuribayashi and Haner et al.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

Ko-Fang Chang

Ko-Fang Chang
Reg. No. 50,829

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 650-326-2400 Fax: 415-576-0300
KFC:djb
60422403 v1